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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/869,170	06/25/2001	Yuuki Matsumura	SONYJP-130	9790
530	7590	03/17/2006	EXAMINER	
LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK 600 SOUTH AVENUE WEST WESTFIELD, NJ 07090			SIMITOSKI, MICHAEL J	
			ART UNIT	PAPER NUMBER
			2134	

DATE MAILED: 03/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/869,170

Applicant(s)

MATSUMURA ET AL.

Examiner

Michael J. Simitoski

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-8, 10-13 and 15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-8, 10-13 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The response of 12/23/2005 was received and considered.
2. Claims 1-3, 5-8, 10-13 & 15 are pending.

Response to Arguments

3. In light of Applicant's response, the objections to and rejections of claims 1-3, 5-8, 10-13 & 15 under §112, ¶2 are withdrawn.
4. Applicant's arguments with respect to claims 1-3, 5-8, 10-13 & 15 have been considered but are moot in view of the new ground(s) of rejection.
5. Applicant's response (p. 9) argues that Swanson teaches away from using a fragile watermark because Swanson discloses only robust watermarking. However, there are benefits to having both watermarks, as taught by Cookson, as described below. Further, Swanson's HAS system is designed to make the watermark imperceptible to a human (p. 2) which is applicable to both weak and robust watermarks.

Specification

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: DEVICE, METHOD AND STORAGE MEDIUM FOR
SUPERIMPOSING FIRST AND SECOND WATERMARKING INFORMATION ON AN AUDIO SIGNAL BASED
ON PSYCHOLOGICAL AUDITORY SENSE ANALYSIS.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-3, 5-8, 10-13 & 15, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over “Robust audio watermarking using perceptual masking” by Swanson et al. (**Swanson**), in view of U.S. Patent 6,591,365 to **Cookson**.

Regarding claims 1, 6 & 11, Swanson discloses performing psychological auditory sense analysis/spectral shaping (p. 3, ¶1 & p. 10, §4) based on a predetermined compression characteristic (i.e. mpeg encoding) of said audio signal (p. 3, ¶1 & p. 6, ¶2) and outputting the result of the analysis as psychological auditory sense encoded information (p. 10, #1-3) and superimposing on said audio signal first digital watermarking information/watermarking on said input signal (p. 10, #7) on the basis of said psychological auditory sense encoded information/power spectrum, frequency masking (p. 10, #1-7 & p. 3, ¶1), characterized in that, upon compression of said marked signal to create a compressed signal (p. 15, §6.4), said first digital watermarking information/robust watermark can be completely or substantially recovered from said compressed signal (p. 15, §6.4), wherein said psychological auditory sense encoded information includes the respective frequency bands of said audio signal on which said first watermarking information is to be superimposed (temporal masking properties of the audio) (p. 2, last ¶) and the respective levels to which the first digital watermarking information should be set prior to superimposition (amplitude increases or decreases with the audio) (p. 3, ¶1). While

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Swanson discloses multiple watermarks (p. 15, §6.5), Swanson lacks a explicitly a second watermark characterized in that upon compression of said marked signal, said second watermarking information cannot be completely or substantially recovered from said compressed signal. However, Cookson teaches that it is beneficial to include in an audio signal two watermarks, one robust and one weak (col. 2, line 62 – col. 3, line 15) to detect if the watermark has been compressed and if the watermark is protected (col. 2, line 62 – col. 3, line 15), whereby when the marked audio signal is reproduced the survival state of said first and second digital watermarking information is operable as copy control information (col. 2, line 62 – col. 3, line 33). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to embed digital watermarking information that has small compression resistance toward said compression processing on said input signal. One of ordinary skill in the art would have been motivated to perform such a modification to detect if a signal has been compressed and to detect if the signal is copyright protected, as taught by Cookson (col. 2, line 62 – col. 3, line 33).

Regarding claims 2, 7 & 12, Swanson discloses the psychological auditory sense analysis information being generated based on a predetermined minimum level of audio signal that can be detected by the auditory sense of a human being (Human auditory system, HAS) (p. 2, last ¶ - p. 3, ¶1, p. 5, §3.1 & p. 10, #2).

Regarding claims 3, 8 & 13, Swanson discloses the psychological auditory sense analysis information being generated on the basis of the masking effect of the audio signal (p. 10, #1 & p. 3, ¶1).

Regarding claims 5, 10 & 15, Swanson discloses embedding copyright information relevant to the input signal (p. 1, ¶1).

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Simitoski whose telephone number is (571) 272-3841. The examiner can normally be reached on Monday - Thursday, 6:45 a.m. - 4:15 p.m.. The examiner can also be reached on alternate Fridays from 6:45 a.m. – 3:15 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Morse can be reached at (571) 272-3838.

Any response to this action should be mailed to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Or faxed to:

(571) 273-8300
(for formal communications intended for entry)

Or:

(571) 273-3841 (Examiner's fax, for informal or draft communications, please label "PROPOSED" or "DRAFT")

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJS



March 8, 2006

Handwritten signature: Jacques H. Louis
JACQUES H. LOUIS
Supervising PRIMARY EXAMINER
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